

**Grand Canyon's Distance Learning Human History Program**

**Pre-Program Lesson for Teachers**

**“Deciphering the past by looking through the trash!”**

**30 minute Pre-Program Lesson: Please complete BEFORE connecting with Grand Canyon.**

**Grades 4<sup>th</sup>-8<sup>th</sup>**

**Lesson Overview:**

Through this hands-on lesson, students will experience the research process of archaeologists studying the artifacts of past cultures and societies.

**Lesson Objectives:**

Students will be able to:

- Explain the difference between observation and inference
- Understand the importance of historical context and location
- Understand what archaeology is and how artifacts help us understand the past

**Materials Needed:**

- **A personal “artifact” or item that has significance to you (the teacher)**
- **Four unlabeled bags or boxes containing “artifacts” from four different locations**
- **“Artifacts” from a kitchen (use 6-8 items). Examples include:**
  - Empty soup can
  - Broken dish
  - Banana peel
- **“Artifacts” from a young child’s room (use 6-8 items). Examples include:**
  - Old doll
  - Puzzle pieces
  - Crayons
- **“Artifacts” from a garden shed or garage (use 6-8 items). Examples include:**
  - Old dirty garden gloves
  - Hammer and nails
  - Seeds
- **“Artifacts” from a school classroom (use 6-8 items). Examples include:**
  - Ruler
  - Story books
  - Whiteboard dry erase markers

### **Background Information:**

Just as much of our trash in modern times goes into landfills, the garbage of prehistoric people were piled into *middens*, often just outside of village centers. These *middens* are a rich source of archaeological information about their lives. Layers of trash actually tell a story over time!

Archaeologists analyze tiny fragments of prehistoric meals (bone slivers, seed hulls, plant parts) and charcoal from cooking fires. The animals and plants that these remains came from can be identified, allowing archaeologists to learn very precise information about the lifestyle and economy of past people. These items are called *artifacts*. An *artifact* is an historically important object made by a person.

### **Procedures:**

Begin with a quote from Franz Boas (anthropologist) who once said “Man never lies to his garbage heap.” Boas meant that no matter how we claim to live our lives, the things we throw away tell more about us than almost anything. Ask your students what they think their family’s garbage could tell someone about them? (Family size, income, preferred food, favorite hobbies.)

1. First demonstrate the idea of ***Observation vs. Inference*** by asking your students to examine an artifact that you have brought in (this can be any kind of personal item- a piece of jewelry, a special gift from a family member, a souvenir from a trip to another country, etc). Ask students to make some ***observations*** about the artifact and then ***infer*** what kind of use and meaning it has to you. This is a good way to show students how difficult it can be to ***infer*** the meaning of something, especially if it is hundreds or thousands of years old. This is why archaeologists have a challenging job!
  - a. ***Observation*** is the act of perceiving or noticing features, phenomena’s etc.
  - b. ***Inferences*** are the conclusions drawn by examining or observing factual things.
2. Explain to the students that they are going to become archaeologists and will analyze garbage (*middens*) to see if they can learn who threw the *artifacts* away and where the items came from.
3. Divide students into four groups and give each group one of the artifact boxes. Do not tell the groups where their artifacts came from (ie. Keep the boxes **unlabeled**- kitchen, school etc).
4. Ask your students to be thinking of what they can ***observe and infer*** by asking these questions (also listed on their worksheet):
  - a. What can we tell about the artifacts by their texture, color, size, etc?
  - b. What culture is this garbage from?
  - c. Could this garbage be mistaken for being from another time or culture?
  - d. How do you think garbage from your home is similar or different to garbage from the Grand Canyon?
  - e. Are basic needs (shelter, food, etc) represented in the trash?

- f. What can you infer about the behavior of the person who threw it away and the origin of the garbage?
  - g. What location did this garbage come from (ie. Kitchen, school, store, etc)?
5. As they sort out the garbage, have at least one student per group record their observations and inferences on the worksheet provided with this lesson.

### **Conclusion**

Lead a concluding discussion on the artifacts they found and do a review of the worksheets:

1. Does your study tell you everything you would need to know about American society? Why or why not?
2. Could the contents of your garbage change throughout the year? For instance, they might change as result of a special event or a birthday? As a result, what mistakes might an archaeologist make about the location or community they are studying if they only found artifacts from that special event?
3. How would the results of your study be different if we had mixed each group's artifacts into one big pile? How would that have changed how you organized your artifacts and what kinds of inferences you made?

### **Meeting National Standards**

#### **NSS-USH.K-4.1 LIVING AND WORKING TOGETHER IN FAMILIES AND COMMUNITIES, NOW AND LONG AGO**

- Understands family life now and in the past, and family life in various places long ago
- Understands the history of the local community and how communities in North America

**NS.5-8.1 SCIENCE AS INQUIRY** As a result of activities in grades 5-8, all students should develop--

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

#### **CCSS.ELA-LITERACY.RH.6-8.7**

Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

#### **CCSS.ELA-LITERACY.RH.6-8.8**

Distinguish among fact, opinion, and reasoned judgment in a text.

***“Deciphering the Past by looking at the Trash!”***



**Archaeologists:**

	<b>Observations</b>	<b>Inferences</b>
<b>Artifact # 1</b>		
<b>Artifact # 2</b>		
<b>Artifact # 3</b>		
<b>Artifact # 4</b>		
<b>Artifact # 5</b>		
<b>Artifact # 6</b>		
<b>Artifact # 7</b>		



**Answer these questions as you make your observations and inferences**

1. Can you tell when your garbage was thrown away? If yes, how? If no, why not?
  
2. List two or more inferences you can make about the person or people who threw the garbage away?
  
3. What location did your garbage come from?
  
4. By looking at your garbage, which basic needs of this person are being met?
  
5. How can you tell that this garbage is from your own culture and not a different culture?

